ELSEVIER

Journal of Electromyography and Kinesiology 14 (2004) 715–722

JOURNAL OF ELECTROMYOGRAPHY AND KINESIOLOGY

www.elsevier.com/locate/jelekin

LIST OF CONTENTS

NUMBER 1

SPECIAL ISSUE
State of the Art Research Perspectives on Musculoskeletal Disorder Causation and Control
Guest Editors: William Marras and Thomas Waters

State-of-the-art research perspectives on musculoskeletal disorder causation and control: the need for an intergraded understanding of risk
W. S. Marras 1

National efforts to identify research issues related to prevention of work-related musculoskeletal disorders
T. R. Waters 7

Work-related musculoskeletal disorders: the epidemiologic evidence and the debate
L. Punnett and D. H. Wegman 13

Epidemiology of musculoskeletal disorders among computer users: lesson learned from the role of posture and keyboard use
F. Gerr, M. Marcus and C. Monteilh 25

Reducing the costs of work-related musculoskeletal disorders: targeting strategies to chronic disability cases
M. L. Baldwin 33

Linking latest knowledge of injury mechanisms and spine function to the prevention of low back disorders
S. M. McGill 43

Ligaments: a source of work-related musculoskeletal disorders
M. Solomonow 49

Factors involved in strain-induced injury in skeletal muscles and outcomes of prolonged exposures
W. T. Stauber 61

Entrapment neuropathies: pathophysiology and pathogenesis
D. M. Rempel and E. Diao 71

Inflammation reduces physiological tissue tolerance in the development of work-related musculoskeletal disorders
A. E. Barr and M. F. Barbe 77

Mechanisms of central sensitization, neuroimmunology & injury biomechanics in persistent pain: implications for musculoskeletal disorders
B. A. Winkelstein 87

Review of enigmatic MTrPs as a common cause of enigmatic musculoskeletal pain and dysfunction
D. G. Simons 95

Biomechanics of musculoskeletal pain: dynamics of the neuromatrix
P. S. Khalsa 109

Individual factors and musculoskeletal disorders: a framework for their consideration
D. C. Cole and I. Rivilis 121

Back pain—individual and genetic factors
C. Leboeuf-Yde 129

Interventions to reduce work-related musculoskeletal disorders
B. Silverstein and R. Clark 135

Work-related low back pain: secondary intervention
S. H. Snook 153

Musculoskeletal disorders: primary and secondary interventions
R. J. Gatchel 161

From confounders to suspected risk factors: psychosocial factors and work-related upper extremity disorders
M. Feuerstein, W. S. Shaw, R. A. Nicholas and G. D. Huang 171

NUMBER 2

Increased diaphragmatic strength and tolerance to fatigue after bilateral lung transplantation: an electromyographic study
M. Reynaud-Gaubert, C. Guillot, M. Faucher, Y. Jammes, P. Fuentes and M. Badier 179

EMG versus oxygen uptake during cycling exercise in trained and untrained subjects
F. Hug, P. Decherchi, T. Marqueste and Y. Jammes 187

Effects of the length ratio between the contractile element and the series elastic element on an explosive muscular performance
A. Nagano, T. Komura and S. Fukashiro 197

Validation of the wavelet spectral estimation technique in Biceps Brachii and Brachioradialis fatigue assessment during prolonged low-level static and dynamic contractions
I. Hostens, J. Seghers, A. Spaepen and H. Ramon 205

The effect of skinfold on frequency of human muscle mechanomyogram
A. Jaskólska, W. Brzenczek, K. Kisiel-Sajewicz, A. Kawczyński, J. Marusiak and A. Jaskólski 217

Simulation of the motor units control during a fast elbow flexion in the sagittal plane
R. T. Raikova and H. T. Aladjov 227

Analyses of dynamic co-contraction level in individuals with anterior cruciate ligament injury
S. T. da Fonseca, P. L. P. Silva, J. M. Ocarino, R. B. Guimaràes, M. T. C. Oliveira and C. A. Lage 239

Can needle-EMG correctly diagnose combinations of two damaged nerves?
I. Yaar 249

Femoral anteversion influences vastus medialis and gluteus medius EMG amplitude: composite hip abductor EMG amplitude ratios during isometric combined hip abduction-external rotation
J. Nyland, S. Kuzemchek, M. Parks and D. N. M. Caborn 255

Relationship between muscle length and moment arm on EMG activity of human triceps surae muscle
M. R. Nourbakhsh and C. G. Kukulka 263

Footprint analysis of gait using a pressure sensor system
E. B. Titianova, P. S. Mateev and I. M. Tarkka 275

Effect of needle-EMG on blood-pressure and heart-rate
J. Finsterer 283

NUMBER 3

Gait adaptation in ACL deficient patients before and after anterior cruciate ligament reconstruction surgery
Z. Knoll, R. M. Kiss and L. Kocsis 287

The cross-correlation and phase-difference methods are not equivalent under noninvasive estimation of the motor unit propagation velocity
T. I. Arabadzhiev, G. V. Dimitrov and N. A. Dimitrova 295

Are hamstrings activated to counteract shear forces during isometric knee extension efforts in healthy subjects?
I. Kingma, S. Aalbersberg and J. H. van Dieën 307

Relationship between two proprioceptive measures and stiffness at the ankle
C. L. Docherty, B. L. Arnold, S. M. Zinder, K. Granata and B. M. Gansneder 317

Surface EMG alterations induced by underwater recording
A. Rainoldi, C. Cescon, A. Bottin, R. Casale and I. Caruso 325

Reliability of EMG measurements for trunk muscles during maximal and sub-maximal voluntary isometric contractions in healthy controls and CLBP patients
W. Dankaerts, P. B. O'Sullivan, A. F. Burnett, L. M. Straker and L. A. Danneels 333

Spatial, temporal and muscle action patterns of Tai Chi gait
G. Wu, W. Liu, J. Hitt and D. Millon 343

Measurements of wrist and forearm positions and movements: effect of, and compensation for, goniometer crosstalk
G.-Å. Hansson, I. Balogh, K. Ohlsson and S. Skerfving 355

Recruitment of single human low-threshold motor units with increasing loads at different muscle lengths
P. A. McNulty and A. G. Cresswell 369

Toward an objective interpretation of surface EMG patterns: a voluntary response index (VRI)
D. C. Lee, H. K. Lim, W. B. McKay, M. M. Priebe, S. A. Holmes and A. M. Sherwood 379

Less is more: high pass filtering, to remove up to 99% of the surface EMG signal power, improves EMG-based biceps brachii muscle force estimates
J. R. Potvin and S. H. M. Brown 389

Determinants of sit-to-stand capability in the motor impaired elderly
M. Bernardi, A. Rosponi, V. Castellano, A. Rodio, M. Traballesi, A. S. Delussu and M. Marchetti 401

The effects of muscle history on short latency stretch reflex response of soleus muscle
J. Kallio, V. Linnamo and P. V. Komi 411

NUMBER 4

The application of independent component analysis to the multi-channel surface electromyographic signals for separation of motor unit action potential trains: part I—measuring techniques
H. Nakamura, M. Yoshida, M. Kotani, K. Akazawa and T. Moritani 423

The application of independent component analysis to the multi-channel surface electromyographic signals for separation of motor unit action potential trains: part II—modelling interpretation
H. Nakamura, M. Yoshida, M. Kotani, K. Akazawa and T. Moritani 433

Precision of measurements of physical workload during standardised manual handling. Part I: Surface electromyography of *M. trapezius*, *M. infraspinatus* and the forearm extensors
C. Nordander, I. Balogh, S. E. Mathiassen, K. Ohlsson, J. Unge, S. Skerfving and G.-Å. Hansson 443

The effect of the amplitude of motor action on anticipatory postural adjustments
A. S. Aruin and T. Shiratori 455

Spatio-temporal evaluation of neck muscle activation during postural perturbations in healthy subjects
D. Falla, A. Rainoldi, R. Merletti and G. Jull 463

Knee joint laxity affects muscle activation patterns in the healthy knee
S. J. Shultz, C. R. Carcia and D. H. Perrin 475

Influence of knee angle and individual flexibility on the flexion–relaxation response of the low back musculature
G. Shin, Y. Shu, Z. Li, Z. Jiang and G. Mirka 485

Patellar taping increases vastus medialis oblique activity in the presence of patellofemoral pain
E. A. Christou 495

The effects of bipolar electrode montage on conduction velocity estimation from the surface electromyogram
R. B. J. Beck, M. O'Malley, J. P. van Dijk, P. Nolan and D. F. Stegeman 505

Neuromechanical strategies employed to increase jump height during the initiation of the squat jump
C. J. Hasson, E. L. Dugan, T. L. A. Doyle, B. Humphries and R. U. Newton 515

NUMBER 5

Changes of the force–frequency relationship in human tibialis anterior at fatigue
C. Orizio, M. Gobbo and B. Diemont 523

Selective fatigue of fast motor units after electrically elicited muscle contractions
T. Hamada, T. Kimura and T. Moritani 531

A pattern recognition technique to characterize the differential modulation of co-activating muscles at the performer/environment interface
L. Pelland and P. McKinley 539

Mechanomyographic amplitude and mean power frequency versus torque relationships during isokinetic and isometric muscle actions of the biceps brachii
T. W. Beck, T. J. Housh, G. O. Johnson, J. P. Weir, J. T. Cramer, J. W. Coburn and M. H. Malek 555

Effect of dynamic stability on a step task in ACL deficient individuals
K. S. Rudolph and L. Snyder-Mackler 565

Validation of portable muscle tone measurement device for quantifying velocity-dependent properties in elbow spasticity
H.-M. Lee, J.-J. J. Chen, M.-S. Ju, C.-C. K. Lin and P. P. W. Poon 577

Effect of ankle joint position and electrode placement on the estimation of the antagonistic moment during maximal plantarflexion
L. Mademli, A. Arampatzis, G. Morey-Klapsing and G.-P. Brüggemann 591

Active stiffness of the ankle in response to inertial and elastic loads
K. P. Granata, S. E. Wilson, A. K. Massimini and R. Gabriel 599

From cell to movement: to what answers does EMG really contribute?
G. Rau, E. Schulte and C. Disselhorst-Klug 611

NUMBER 6

Enhanced motor unit rate coding with improvements in a force-matching task
C. A. Knight and G. Kamen 619

Arthrogenic muscle response induced by an experimental knee joint effusion is mediated by pre- and post-synaptic spinal mechanisms
R. M. Palmieri, J. A. Tom, J. E. Edwards, A. Weltman, E. N. Saliba, D. J. Mistry and C. D. Ingersoll 631

Effect of hip and ankle muscle fatigue on unipedal postural control
P. A. Gribble and J. Hertel 641

Electromechanical delay estimated by using electromyography during cycling at different pedaling frequencies
L. Li and B. S. Baum 647

Responsiveness of the H reflex to loading and posture in patients following stroke
I.-S. Hwang, C.-F. Lin, L.-C. Tung and C.-H. Wang 653

Electromyographical assessment on muscular fatigue—an elaboration upon repetitive typing activity
M.-I. Lin, H.-W. Liang, K.-H. Lin and Y.-H. Hwang 661

Quantitative assessment of upper limb muscle fatigue depending on the conditions of repetitive task load
D. Roman-Liu, T. Tokarski and K. Wójcik 671

The relationships between active extensibility, and passive and active stiffness of the knee flexors
J. T. Blackburn, D. A. Padua, B. L. Riemann and K. M. Guskiewicz 683

The effect of foot orthotics on myoelectric fatigue in the vastus lateralis during a simulated skier's squat
N. Vanicek, J. Kingman and C. Hencken 693

Activation of shoulder muscles in healthy men and women under isometric conditions
C. Anders, S. Bretschneider, A. Bernsdorf, K. Erler and W. Schneider 699

Comparison of surface electromyography and myotonometric measurements during voluntary isometric contractions
C. T. Leonard, J. S. Brown, T. R. Price, S. A. Queen and E. L. Mikhailenok 709